

CLAIMS

I claim:

1. An alcohol and drug sensor system for vehicles comprising:
 - a vehicle;
 - a main tube coupled to said vehicle such that said main tube is accessible to a user while in a driver's position within said vehicle;
 - a sensor assembly operationally coupled to said main tube for detecting intoxicants in breath of said user when said user blows into said main tube;
 - a microprocessor operationally coupled to said sensor assembly;
 - an ignition system of said vehicle being operationally coupled to said microprocessor such that said ignition system cannot be activated until said user has blown into said main tube;
 - wherein said microprocessor prevents activation of said ignition system when a level of intoxicants detected by said sensor assembly is over a pre-determined level; and
 - wherein said microprocessor activates a relay to enable said ignition system to permit said ignition system to be used to start said vehicle when said level of intoxicants detected by said sensor assembly is below said pre-determined level.
2. The alcohol and drug sensor system for vehicles of claim 1, further comprising:
 - a locking means for physically preventing turning of an ignition key; and

wherein said microprocessor is operationally coupled to said locking means for physically preventing turning of said ignition key when said level of intoxicants detected by said sensor assembly is over a pre-determined level.

3. The alcohol and drug sensor system for vehicles of claim 1 wherein said sensor assembly uses gas chromatography to detect said level of intoxicants.

4. The alcohol and drug sensor system for vehicles of claim 3, wherein said sensor assembly comprises:

- a sample inlet tube environmentally coupled to said main tube;

- a carrier-gas supply flow controller coupled to said sample inlet tube for regulating flow of exhaled breath through said sensor assembly;

- a chromatographic column coupled to said carrier-gas supply flow controller, said chromatographic column having an exit opening;

- a resistance measuring means positioned adjacent said exit opening for measuring electrical resistance a fluid passing through said exit opening; and

- a column oven coupled to said chromatographic column for heating said exhaled breath as said exhaled breath passes into said chromatographic column whereby elements of said exhaled breath are separated retention time within said chromatographic column before passing through said exit opening.

5. The alcohol and drug sensor system of claim 4, wherein said resistance measuring means comprises:

a silicone wafer defining said exit opening;
a pair of thermal detectors each having a plurality of
serpentine strands of nickel wire, said thermal detectors being
positioned proximate said exit opening; and
a wheatstone bridge being attached to said thermal detectors.

6. The alcohol and drug sensor system of claim 5 wherein
each of said strands of nickel wire is approximately 20 microns
thick and approximately one inch long.